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FIFTY YEARS OF POST-INDEPENDENCE ORNITHOLOGY IN INDIA

A CENTENARY DEDICATION TO DR. SÁLIM ALI

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THE CONTRIBUTIONS OF ALLAN O. HUME TO THE SCIENTIFIC ADVANCEMENT OF INDIAN ORNITHOLOGY*

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Allan O. Hume (1829-1912) is well known in the field of modern Indian history because of his leadership role in establishing the Indian National Congress in 1885, and in serving as its first General Secretary from then until he retired permanently to Britain in 1894. Less known is the major role which Hume played during the third quarter of the 19th century in promoting Indian ornithology.⁽¹⁾ Indeed, my extensive research into Hume's overall career in the Subcontinent indicates that Hume's first love in India was not politics but natural history, and particularly Indian ornithology. It is no exaggeration to assert that Hume devoted more of his life to this subject than to politics, an interest which bloomed only comparatively late in his long and active career. On the other hand, the avifauna of the British Indian Empire appears to have been a keen interest of Hume's from the time he joined the Indian Civil Service in the North Western Provinces (present day Uttar Pradesh) in 1850, until Theosophy and Indian nationalism led him to abandon active new work in ornithology by around 1883.

The purpose of this article is to examine the nature and extent of Hume's involvement in the field of Indian ornithology, to attempt to assess his contributions, and because it is being written for an archival journal, to provide extensive information on the sources regarding Hume's work in this area. More precisely, the main body of the article begins with a brief exploration of Hume's motives and objectives in pursuing the study of Indian ornithology. This is followed by a more extensive discussion of each of the three main areas into which Hume's ornithological contributions naturally fall. The first of these concern his organisation and leadership of a number of major ornithological expeditions to areas of the Subcontinent formerly little explored for that purpose. Secondly, he published very extensively on the subject of Indian ornithology, including lengthy accounts of all his major expeditions. Thirdly, he amassed by the early 1880s the largest collection ever assembled of Indian bird and egg specimens. The scope of this collection and his ultimate bequest of it to the British Museum of Natural History (BMNH) for permanent safekeeping is examined. Finally, Hume's involvement in other branches of natural history is briefly noted, and his overall scientific contributions assessed. At various stages throughout the article, brief insights are provided into what Hume reveals of himself through his scientific work: his organisational skills, love of nature, and disenchantment with urban, bureaucratic life.

From his youth, Hume appears to have had a special interest in science, and evidently studied medicine for a time at University College Hospital, London.⁽²⁾ Attuned to the intellectual climate of the Victorian age, Hume came to regard scientific pursuits as the most efficacious form of intellectual

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activity. Science, he wrote on one occasion "teaches men to take an interest in things outside and beyond ... the gratification of the animal instinct and the sordid and selfish cares of worldly advancement; it teaches a love of truth for its own sake and leads to a purely disinterested exercise of intellectual faculties".⁽³⁾

Precisely what factors led him to develop a special interest in natural history in general, and ornithology in particular, are not altogether clear. His initial interest seemed to be that of the sportsman who, from the time of his arrival in India, enjoyed hunting Indian big game animals and birds. We know for certain, however, that as early as 1857, only 8 years after he began his career in India, he had developed the beginnings of an Indian ornithological collection. This collection, for which Hume was offered £1,000 early in 1857, was destroyed shortly afterwards in the rebellion of that year⁽⁴⁾, which swept through the district of Etawah where Hume had been appointed acting Magistrate in early 1856. Despite this setback, Hume recommenced with more determination than before to build up his personal collection of Indian bird specimens.

It must be emphasized that Hume's interest was in the scientific study of Indian ornithology, and not in merely having birds stuffed for museum display. Instead, his interest was in preserving the specimens of bird skins and eggs in carefully sealed packets, protected from light and designed for study in the scientific laboratory. For Hume, this kind of work was intellectually creative and morally ennobling, as witnessed by the following description, written in 1867, after he had been collecting for nearly twenty years: "... alike to young and old, the study of Natural History in all its branches offers, next to religion, the most powerful safeguard against those worldly temptations to which all ages are exposed. There is no department of natural science the faithful study of which does not leave us with juster and loftier views of the greatness, goodness, and wisdom of the Creator, that does not leave us less selfish and less worldly, less spiritually choked up with those devil's thorns, the love of dissipation, wealth, power, and place, that does not, in a word, leave us wiser, better and more useful to our fellow-men" ⁽⁵⁾.

Hume seems to have begun his Indian ornithological collection by exploring the areas to which his various health leaves in the Himalayas or his employment took him, as he climbed the ladder of district administration in the North Western Provinces, culminating in his appointment as Collector and Magistrate of Etawah from 1856 to 1867. His next appointment as Commissioner of Inland Customs was even better suited to his ornithological interests, for in that position Hume was responsible for the control of a vast internal customs line which stretched for some 2,500 miles from near Peshawar in the northwest to the southern part of the Subcontinent, and from there in a northeasterly direction to Cuttack on the Bay of Bengal. In this position, Hume travelled hundreds of miles on horseback or camel in North India and especially in Rajasthan, where he negotiated treaties with various maharajas, controlling the export of their rich resources of natural salt to the territories of British India.

Hume's final advancement in the bureaucracy in 1871 took him to Calcutta, and the summer capital of Shimla, as Secretary of the newly established Department of Revenue, Agriculture and Commerce. It was while in this latter position, which he held until his Department was abolished in 1879, and which was so onerous that it held him to his desk in Calcutta or Simla, that Hume organised various leaves all designed to enable him to undertake major ornithological expeditions. His overall objective, carefully thought out in advance, was to examine systematically "the ornithology of the outlying, and comparatively imperfectly explored, Provinces and Dependencies of the Indian Empire".⁽⁶⁾ In accord with this general plan, the first expedition concentrated on the vast western territory of Sind, though in actual fact it covered mainly the areas adjoining the river systems from Jhelum in the northeast Punjab, down the Indus to Karachi and then west along the coast to Muscat. The expedition lasted

from late November 1871 to the end of February 1872, and was the longest one on which he embarked. The second, in March 1873, was to the Andaman and Nicobar Islands in the Bay of Bengal. This was followed in the winter of 1875 by a five week expedition to the Laccadive Islands off the southwest coast of India. Hume's final ornithological expedition was to Manipur, to which he arranged a special leave in 1881 following his demotion from the Central Government to a junior position on the Board of Revenue of the North Western Provinces.

The timing of Hume's first really big ornithological expedition, that to the much-neglected province of Sind, was dictated by warnings of his "failing health and energies," brought on, he was convinced, by "many successive years ... toiling unremittingly on the official tread-mill ... which wear[s] out alike mind and body, with ... such apparently insignificant results."⁽⁷⁾ He therefore determined to "have a holiday for once" and to "occupy that respite from red tape, office boxes" and being constantly dictated to by official superiors, to investigate thoroughly the avifauna of Sind. While Governor-General Mayo facilitated Hume's leave, his Indus-Sind expedition, as far as one can tell, was financed from his own pocket. It was, however, a large and extremely impressive undertaking. Hume wrote "We had ... a couple of large flat-bottomed boats, with cabins, kitchens, etc. built on them, and in these boats we were able, aided by a little rowing, to float down [river] ... Attached to the larger boats ... we had two or three small row and gun boats for shooting"⁽⁸⁾.

Hume's party included some 20 local Muslim boatmen and he obviously must have had one or more professional taxidermists with him to preserve the specimens gathered daily. Hume himself was an excellent marksman, and every day he had two to five others shooting with him, usually in two parties travelling along the river banks several miles apart. At two stages during the expedition, he was directly assisted in collecting by the Inspector General of Fisheries, Dr. Francis Day, an experienced naturalist and ornithologist. He also paid special tribute to the Chief Commissioner of Sind, Sir W. Merewether, for his friendly assistance, as well as to 8 other Europeans, no doubt mostly officials, who had been notably helpful.

In many areas, the bird life was in superabundance, and in his miles of tramping on land or being rowed in a boat, Hume himself appears to have shot more birds than anybody else in the party. Only on one occasion during the expedition did he confess to some remorse over the extensive bird killing for which he was responsible. This involved a long chase in rolling seas off the coast by Hume and two rowers in a cranky "light native canoe" of a particularly resourceful grebe, who kept some 70 yards from the boat and constantly dived and changed directions. Hume wasted many shots before he at last hit the grebe in the neck at a distance of 60 yards and saw it float dead on the water. "I was greatly delighted," Hume wrote: "but yet it gave one a kind of pang to see his lovely white satin breast upturned, rising and sinking slowly in the bright sunlight on the soft green swells. I almost wished I had not been quite so successful, or rather what I exactly wished was, that I could have got my specimen, and he remained alive and jolly all the same."⁽⁹⁾

As the last phrase suggests, what mattered most to Hume at this stage was the service of science.

The scientific results of the Sind expedition were indeed impressive. Altogether, Hume collected 1,200 specimens, representing 250 different bird species⁽¹⁰⁾. Of these species, Hume was disappointed to find that only four were, to the best of his knowledge, "new to science". More satisfying was the fact that 18 other species had not previously been identified in British India. In addition, approximately two dozen other species had previously been spotted only rarely in India. The main general conclusion which he reached on the basis of his findings was that the ornithology of Sind was "more closely allied with Asia Minor ... and North-Eastern Africa than with any other province of India"⁽¹¹⁾. Hume published a detailed and

lengthy account of the expedition and hoped his work on Sind would stimulate others to investigate further the avifauna of that region.

Hume's second expedition, to the Andaman, Nicobar and other islands in the Bay of Bengal undertaken in March 1873, was scientifically more broadbased than the Sind expedition. In addition to Hume, the top ornithologist, the party included Dr. F. Stoliczka and Dr. Dougall of the Geological Survey of India, and Mr. Wood-Mason of the Indian Museum in Calcutta. The group also included a "pretty strong party of taxidermists" and a sufficiently large "exploring party" to enable the expedition to "turn out eight hours daily whenever ... [it] touched land" ⁽¹²⁾. The expedition was made possible partly through the "liberality of the British India Steam Navigation Company, which provided the group with a fine steamer, the *Scotia* ... on very favourable terms" ⁽¹³⁾. In addition, Hume by then employed his own Curator, in the person of William R. Davidson, for the management of his rapidly expanding ornithological collections. At Hume's direction, and with much practical assistance from local officials, Davidson worked full time in the Islands from December 1872 to May 1873 ⁽¹⁴⁾. When he left the area, a Captain Wimberley, who was presumably stationed at Port Blair on the Andamans, continued the ornithological work for several months and, with the help of a taxidermist left behind by Davidson, collected 700 specimens. Davidson, for his part, collected 1,200 specimens. Hume and his own party on the month-long expedition, which even visited a number of islands on which no Europeans had previously landed, collected over 500 specimens. The overall result of the expedition, coupled with earlier data, was to add definitively 198 species to the avifauna of islands of the Bay of Bengal.

While Hume suspected that a few new species might still be discovered in "the interior of the Great Nicobar," he was satisfied that "sufficient data" had been assembled to form a "tolerably correct conception of the ... Avifauna of these islands" ⁽¹⁵⁾. Even though Hume had badly sprained his back at the outset when jumping down from a rope ladder into their row boat in rough weather, and was thus prevented from much exploration in the dense jungle of the islands, he was still exhilarated by the trip ⁽¹⁶⁾. Although the last island they visited, Preparis, was generally voted a "beastly hole" Hume characterised it as a "paradise" compared with India's metropolis to which he was returning, namely Calcutta, "that most detestable of all abominable places ... where ... everything smells, *except* the flowers!" ⁽¹⁷⁾

Some two years later, Hume secured another release from his heavy official duties to fulfil a much "cherished dream," to "visit and explore" the Laccadives, "those little known reefs and islands" off the coast of present day Kerala ⁽¹⁸⁾. In late January 1875, he arrived in Bombay, where he was to embark on an old, shallow-bottomed, river type "gun boat", the *Clyde*, which had been partially refurbished by the Indian Marine Survey and was scheduled to spend approximately a month refining marine charts of the Laccadives. Though Hume was summoned urgently to Bombay, he was there for a full week before the ship was reasonably seaworthy, and even then its old steam engine broke down before they got out of the harbour, and badly disrupted a big, official regatta going on there that day. Eventually, by the second week of February, and thanks more to sail than engine, they reached the Laccadives, by which time several cases of smallpox had occurred among the crew ⁽¹⁹⁾.

While the coral reefs and small tropical islands were interesting from the general perspective of natural history, the extent and variety of bird life proved disappointing. On the tiny island of Bitra Par, for example, Hume reported that "plants were few and uninteresting [and] birds were even scarcer," whereas seemingly reliable reports indicated that up to around 1830 "enormous flocks of sea birds used to breed and lay their eggs amongst the brushwood!" ⁽²⁰⁾. On the larger and permanently inhabited island of Kiltan, one "quite typical of the Laccadive Atolls", Hume found the indigenous vegetation the same as on Bitra Par.

Although he "worked the island thoroughly ... the only really indigenous bird appeared to be the white-eye (*Zosterops palpebrosa*), which was common"⁽²¹⁾. Similarly, on the larger island of Cardamom (now Kadmat), which was extensively covered with scrub jungle, and which Hume and his party worked from 7.30 a.m. till dusk, the only "species at all abundant were the white-eyed tit and the common koil"⁽²²⁾. The same was true, finally, of Amini, which Hume characterised as "the best and most populous of the British Islands," with a "native doctor" and "no less than six schools containing 100 pupils of both sexes." But, with respect to birds, the island was "as barren as the rest, the only new feature" being "a good number of the common Indian crow"⁽²³⁾. The *Clyde*, with its engines now completely dead, sailed for Quilon on the Travancore coast on 25th February, but because the ship lacked a substantial keel and was almost impossible to sail against head winds, the crew spent nine days and nights trying to get around Cape Comorin. When it finally reached Tuticorin, on the southeastern coast, Hume disembarked and spent the rest of his leave in the Palni and Nilgiri Hills. Dr. Armstrong of the Marine Survey stayed on the *Clyde* and went on to nearby Rameswaram Island in the Palk Strait, where he managed to collect for Hume a number of bird specimens not formerly recorded in that locality.

Hume's final major ornithological expedition was made during the first half of 1881, not long after he had been demoted from his Secretarial position with the Government, and just prior to his early retirement from the I.C.S. This expedition focused primarily on the 'protected' state of Manipur, then the northeast extremity of the British Indian Empire, but also encompassed adjoining parts of Assam and the Bengal districts of Sylhet and Cachar. The expedition was thus in keeping with Hume's overall plan of the ornithological mapping of the little known outlying territories. Hume appears to have spent several months exploring the bird life of Manipur, facilitated and protected by the good offices of the Maharaja, who helpfully delegated an envoy to accompany Hume throughout his "peregrinations as guide, mentor, and commandant" of a state escort, which at one stage included as many as 600 soldiers⁽²⁴⁾. From his brief published writings on this expedition, it is clear that Hume was quite taken with the physical beauty of Manipur, with its "narrow forest-clad ranges" rising to some 10,000 feet, its narrow intervening gorges with torrential rivers and "bawling" streams, and with the "luxuriant vegetation which, ... in lower hill valleys (was) thoroughly tropical in character and unsurpassed in density and richness"⁽²⁵⁾. He also was impressed by the Manipuris, the dominant people who controlled the large Manipur plain in the centre of the state, noting that they were "good agriculturalists," and "by religion" Hindus who abstained from "flesh food"⁽²⁶⁾. Ornithologically, the trip was far more successful than that to the Laccadives, the detailed list of species observed on the entire expedition being well over 500⁽²⁷⁾. Not surprisingly, many of these species bore more affinity to those of Burma than to India proper.

This turned out to be Hume's last ornithological expedition. By June 1881, when it finished, Hume was already under the increasing influence of the Theosophical Society with which he first came into contact in late 1879. His deep immersion in Theosophy, and particularly his desire to be accepted as a *chela* or disciple of the saintly Indian *mahatmas* who were thought to reside in remote regions of Tibet, led Hume to adopt the lifestyle of true Indian ascetics, to become a vegetarian, to eschew alcohol and to pursue a non-violent lifestyle. One direct result was Hume's abandonment forever of the shooting and collecting of birds, or indeed of the big game animals he had enjoyed hunting in the earlier decades of his Indian career.

Hume's second significant contribution to Indian ornithology was in the form of his voluminous writings on the subject. Given his belief in the prime importance of science, and being a particularly energetic and well organised person, it was only natural that once Hume became actively involved

in the collection and study of Indian birds, he should want to share his findings with the wider scientific world. Accordingly, he began publishing on this subject by 1868, with a lengthy article on *Grus leucogeranus*, or the Siberian crane, in the prestigious British ornithological journal *The Ibis*⁽²⁸⁾. Hume, who characterised this bird as "the rarest and ... finest (of the) four beautiful species of crane which adorn our Indian plains" had first shot one in Ladakh in October, 1851. But at that time, he acknowledged, he was still "too much of a mere sportsman and too little of a naturalist to take much note of a bird which had nothing game-like in its plumage, and which proved unfit for the table." It was not till 1859 that he again saw or shot one, even though he always had his "gun in hand" whenever he could "spare the time or ... get leave". On that occasion, he shot one of a flock of 25 Siberian cranes that he came across in a "large jheel or shallow rain-water lake" in the northern part of his district Etawah. Then, during the winters of 1866 and 1867, he closely observed and also procured, dissected and preserved a considerable number of specimens from the same area, which formed the basis for his informative first ornithological publication.

This article was obviously well regarded by the editors of *The Ibis*, for in its first issue of the following year 1869, its lead article was a 20 page account by Hume on "Birds nesting in Bareilly in the early rains." Hume had been posted to that district for a time in 1867, and the article was based on his first hand observations of a variety of birds (including barbets, tailor birds, parakeets, orioles, crows, rocket birds, pagoda mynahs, and doves) in the large, tree-covered compound of his bungalow. The article is also entertaining because of Hume's colourful descriptions of relations with his Indian "head fowler, or Meer Shikaree ... by caste a Karol, tall, powerful and handsome," a superior "sportsman, but much given to lying and exaggeration when it came to his observations of bird life".⁽²⁹⁾ That same year, *The Ibis* published another substantial article by Hume, entitled "My first Nests of Bonelli's Eagle." It consisted of a dramatic account of his encounter on Christmas Day, on a hundred foot perpendicular cliff at the confluence of the Chambal and Jumna rivers, with a tenacious female eagle who resisted leaving her vast nest, but was ultimately dislodged and shot along with her mate. Then, with a "stout rope round the waist," Hume managed to get down the cliff face to the nest from which he recovered "the coveted treasures, two fresh eggs." These and the skins of the two eagles were added to Hume's growing collection of specimens. In addition to these articles, *The Ibis* of that year published three letters by Hume, one correcting existing data on several bird species of the Shimla area, another on the nesting habits of heron and bitterns in the Etawah region; and the third updating information on birds of North Western India.

That same year Hume published, presumably at his own expense, his first major book on Indian Ornithology. Entitled MY SCRAP BOOK: OR ROUGH NOTES ON INDIAN OLOGY AND ORNITHOLOGY, the book was 422 pages in length and contained detailed descriptions of 81 Indian bird species, as well as considerable information on Hume's experiences in procuring them. Significantly, the book was dedicated to the two leading authorities in the field, Edward Blyth and Dr. Thomas C. Jerdon, who together, Hume wrote, had "done more for Indian Ornithology than all other modern observers put together"⁽³⁰⁾. Hume described himself as "their friend and pupil" and considered the book as "supplementary to ... Jerdon's excellent work" and a "nucleus round which future observations ... may ... crystallize." Hume was apologetic about the "imperfect and disjointed" state of the written text, but the pressure of office work and the constant "uncertain[ty]" of life in India, induced him to publish without delay⁽³¹⁾. He hoped, thereby, fully to inform his "numerous coadjutors in different parts of India," about the extent of his latest ornithological findings, so that they in turn could help him to "fill in many of the woeful blanks remaining in ... [the] record"⁽³²⁾. Two further articles by Hume, as well as seven letters, were published in *The Ibis* in 1870. As earlier, these writings were quite wide ranging in their scope, and highly specialised. The articles continued his "Stray Notes

on Ornithology in India" series, the first dealing with "A new Genus of Sylviidae" or warbler, initially suspected by Jerdon to be a distinct species and now identified as such by Hume and his associate, W.E. Brooks, after a detailed examination of more than 60 specimens⁽³³⁾. The other article was subtitled *EMBERIZA STRIOLATA* or striolated bunting, a "pretty little bird," which Hume had observed first hand in the arid regions around Ajmer, Mount Abu and Jodhpur, and on which he provided a fund of hitherto unknown information⁽³⁴⁾. Hume's letters questioned existing information on some species, updated knowledge on others, and identified at least one new species. In 1870 as well, Hume had two items published by the Asiatic Society of Bengal; the first a substantial essay in the Journal, critically assessing W.T. Blanford's "Ornithological Notes from India"; and the second, published in the Proceedings, a letter "On *Cypselus tectotum*" correcting some earlier information on that species provided by Major Godwin-Austen⁽³⁵⁾.

The tempo of Hume's publication diminished in 1871, undoubtedly because of the pressure of work resulting from his assumption of the Secretaryship of the large new Central Government Department of Revenue, Agriculture and Commerce in July of that year. Despite that, he published in *The Ibis* two significant articles in continuation of his series "Stray Notes on Indian Ornithology". The first was subtitled "On certain new or unrecorded Birds", and provided extensive empirical information on 28 different species⁽³⁶⁾. In that article, Hume gratefully acknowledged the assistance of the leading French ornithologist at the "Musée Jardin des Plantes" in Paris, Mr. Jules Verreaux, in definitively identifying some of the species. The second article contained precise scientific data on nearly a dozen additional new species⁽³⁷⁾.

The year 1872 saw Hume continuing to publish in his now established mode with one major article in *The Ibis* entitled "Descriptions of Six new Species of Indian Birds" primarily from the Sikkim and Darjeeling regions⁽³⁸⁾. In addition, he published another short informative item in the *Proceedings of the Asiatic Society of Bengal* entitled "Notes on a few species of Burmese Birds"⁽³⁹⁾. More significant for Indian ornithology was the initiative which Hume took in November 1872, when he launched a new journal of Indian ornithology, with himself as editor and principal contributor. Hume entitled it *Stray Feathers: A Journal of Ornithology for India and its Dependencies*. The first number ran to some 50 pages, with all the articles except one short one by Blanford being written by Hume himself.

The remaining five numbers, which were to constitute Volume I of *Stray Feathers*, were published in 1873. Parts 2-4, published in February, were dominated by a detailed 200-page report by Hume on his Sind expedition of 1871-72, discussed above. However, even these issues included two articles by other Indian ornithological enthusiasts, one by Valentine Ball on "Birds of the Andamans and Nicobars" and another by W. E. Brooks on Indian and European Eagles. That pattern continued in Parts 5 and 6, which contained two further articles by Brooks on Eagles, one by Capt. T. Hutton on "Paroquets of India"; one by R. M. Adam on "The Ornithology of the Sambhur Lake".

There were also a series of shorter notes by Capt. Cocks and Capt. C. H. T. Marshall on "Collections of Eggs made at Murree"; L. Mandelli on "New Birds from Sikkim". W.T. Blanford's "Corrections"; and two notes by W. Vincent Legge, the most significant of which was "Additions to the Avifauna of Ceylon". By the time Hume launched this ambitious journal, he undoubtedly had already established contact with these and other amateur ornithologists in the Subcontinent, and it was to serve their collective interests, including his own, that Hume established *Stray Feathers*.

In his Preface to Volume 1, issued on the completion of Part 6 in December 1873, Hume clearly explained his reasons for creating the journal. He noted that in India some 1600 species of birds had already been identified, and that this was 100 more than the French naturalist Count de Buffon had assumed to exist in the entire world when he wrote his *NATURAL HISTORY OF BIRDS* in 1793. Hume concluded, therefore, that it would be "impossible" to deal adequately with the Subcontinent's vast avifauna until it possessed a special organ of its own, in which the observations and discoveries of professed ornithologists, working on the spot amongst living birds, could be promptly and conveniently recorded, in which only matters bearing on our great work out here should find a place and which by being ... always at hand and humble in scope should tempt the innumerable "bird-fanciers" ... to put on record some of the multitudinous facts in regard to the distribution and habits of birds that, as travellers and sportsmen, are daily brought to their notice.⁽⁴⁰⁾

While disappointed that he had not attracted greater response from such bird-fanciers in the first year, Hume considered that for professed ornithologists the journal had succeeded beyond either his "expectations or deserts". In short, Hume was convinced that *Stray Feathers* served a meaningful and important scientific purpose.

This conviction of the scientific utility of *Stray Feathers* obviously gave Hume the necessary impetus to keep the journal going as long as possible. For nearly a full decade! Even though most of this period coincided with the most onerous phase of his career in the I.C.S., Hume continued to edit and publish *Stray Feathers* on a regular basis. The editorial work alone that this entailed was no small task. Nine volumes of the journal were published between 1873 and 1881, most of them annually, and the volumes on average numbered over 500 pages each.

In addition, Hume wrote numerous articles and reviews himself, as well as comprehensive reports on each of his major ornithological expeditions already discussed above. In Volume 5 of 1877, for example, there were some 112 separate items by Hume himself. In several other volumes, his entries were in a similar range, and only in Volume 6 (1878) were there fewer than about 30 to 50 items by Hume. Many of these items were confined to the latest precise data on individual species, but there were numerous substantive articles by Hume in which he critically reviewed the publications of others in the field.

A case in the latter category was Hume's opening article in Volume 2, entitled "Die Papageiens" in which he critically attacked a publication by Dr. Otto Finsch, *Monograph of the Parrots* (Leiden: E. J. Brill, 1868). While Hume acknowledged that the book would be most valuable "as an Index of synonyms, and a work of reference in regard to nomenclature," he was distressed to find that the data presented on "one genus (*Palaeornis*)" with which he was intimately familiar, contained "an amount of error scarcely credible" in such a major ornithological work⁽⁴¹⁾. In a burst of outspokenness for which he was well noted by then in his administrative career, Hume went on to charge that the errors were gratuitously "created by the author himself," who, though he probably had never seen "a single wild bird belonging to the genus" had "pooh-pooh[ed] contemptuously the recorded experience of men like Jerdon and Blyth, who for a series of years observed the free living birds, shot and dissected them, and knew to a certainty ... the facts that they stated" ⁽⁴²⁾. Hume then proceeded to indict Finsch's basic scientific credentials, labelling him a "cabinet naturalist," who on the basis of "half a dozen wrongly-sexed skins in some museum," had the effrontery to "contradict ... trustworthy field naturalists" about matters on which he was altogether ignorant. Hume further attacked Finsch for "presumptuous and ... systematic pedantry" in discarding names introduced by experienced field naturalists in favour of his

own "new-fangled appellation" which he fancied to be more in keeping with classical Latin. Hume acknowledged that one "uniform system of nomenclature" was desirable, but observed that "correct synonymy" was not the "end and aim of Natural History," but only a "small adjunct to facilitate its progress", and if one could ensure that no mistakes were committed in correctly identifying the species, "it would not signify one iota, so far as our real objects are concerned, what names we used".⁽⁴³⁾

This outburst by Hume in defence of his fellow field naturalists in India did not go unnoticed among natural scientists in Europe. Most notable, as Hume felt constrained to acknowledge in the October, 1874 issue of *Stray Feathers*, was a 30 page rejoinder against Hume by Viscount Walden, President of the Zoological Society of Britain, in the July issue of *The Ibis*. Never one to be cowed by criticism, Hume replied that he had not meant to attack "real cabinet naturalists, to whose learning and research every branch of natural history owes so much," but only pretentious and "mere synonymy grabbers"⁽⁴⁴⁾. Hume also tellingly noted that despite the long personal attack, Walden did not "attempt even to show that Dr. Finsch is right in any one single point in which I stated that he was in error". Hume then snidely criticized Walden for lacking either a sense of humour or brilliance, and being a clear example of that "curious toadyism which in England so often places a titled dilettante in positions which only really eminent men of science could worthily fill". To rub in the point even further, Hume noted that by contrast he had received "a most friendly note" from Finsch himself, a man obviously "cast in a larger mould". In a final touch of satire, Hume thanked Walden for giving *Stray Feathers* a 30 page, free advertisement in *The Ibis*.

Hume was not always as acerbic with other European ornithologists. A notable case in point was Hume's reviews of publications by Dr. R. Bowdler Sharpe, Ornithologist of the British Museum of Natural History. In the 1874 issue of *Stray Feathers*, Hume reviewed favourably the first volume, Catalogue of the Accipitres (Birds of Prey), of a projected multi-volume series on the birds in the British Museum collection⁽⁴⁵⁾. The second volume, Catalogue of the Striges or Nocturnal Birds of Prey, appeared some two years later, and was warmly praised by Hume. It dealt with nearly 200 species and contained carefully drawn plates of 21 of them. Hume believed that the book would be "invaluable to Indian ornithologists who were obliged to work far away from museums or libraries".⁽⁴⁶⁾ Sharpe's *Catalogue of the Birds of the British Museum*, Vol. III, dealt with Crows, Birds of Paradise, Orioles, Drongos and Wood Shrikes. Hume regarded the volume as a truly "welcome addition to ornithological literature" and since one-sixth of the 367 species described occurred in India, considered that the book, like predecessors in the series, would be useful to "working field ornithologists" in the Subcontinent. His only criticism was that Sharpe sometimes went too far in his "wholesale amalgamation" of species, though in most cases he agreed that the conclusions were "warranted by the record"⁽⁴⁷⁾. What concerned Hume most, in view of the value of the series for science, was that at the current rate of publication it would take 90 years to complete the work. Noting that Sharpe was obliged because of the lack of assistants to spend most of his valued time on clerical and manual work, Hume appealed to the Trustees of the Museum to stop "dawdl[ing]," live up to the public "trust confided in them," and find the funds to enable Sharpe to deal with the remaining 20,000 species in a period of some 10 years. Hume had similar general praise for Sharpe's ensuing volume, which came out at the end of the decade and focused on the Cuckoo Shrikes and Flycatchers. He viewed it as a "most valuable contribution," and of "special interest to Indian ornithologists" because a considerable number of the species occurred there⁽⁴⁸⁾. At the same time, he was critical of the illustrations, some of which were so "harsh and crude" that he was surprised Sharpe had "ever put up with" them. Again, Hume urged the Museum to provide Sharpe with "half a dozen competent men" so that the work could be completed in his lifetime.

While reviews of this kind helped to keep ornithologists in India abreast of the latest developments in the field in Europe, the principal role of *Stray Feathers* was as a forum for extending empirical data on bird species of the Indian subcontinent. Hume himself, through his massive writings for the journal, added tremendously to the existing knowledge of Indian ornithology. But the journal also attracted contributions from large numbers of other ornithological enthusiasts scattered throughout the country. Among the more notable such contributors were the following: R. M. Adams, who wrote several articles on birds of the Sambhur Lake region; Prof. Valentine Ball, who wrote more than half a dozen articles of the birds of the Andamans, and from Bengal south to the Godavari; Dr. W. T. Blanford, who was something of an expert on the birds of Sind and of northeastern India and wrote over six articles; W. E. Brooks, who contributed well over a dozen articles on various species and regions; J. H. Gurney, who contributed data on about a dozen different species; W. Vincent Legge, who wrote extensively on the avifauna of Ceylon; and Eugene E. Oates who wrote several articles on Burmese birds and individual species. In addition, there were over two dozen contributors who wrote one or more items for the journal.

As it turned out, Hume's active work on *Stray Feathers* effectively ceased with the publication of the first five parts of Volume X over the years 1881 to 1883. By then, Hume was so immersed in theosophy that he ceased to be a practising ornithologist, and when that involvement too began to taper off in 1883, the promotion of Indian nationalism and the future Congress became his new life mission. However, under "the friendly pressure of old supporters," Hume made time in late 1887 to publish Part 6 of Volume X, and thus complete that volume⁽⁴⁹⁾. He then went on in 1888 to publish Parts 1 to 4 of Volume XI, which consisted of his detailed listing of data on the birds that he had observed on his Manipur expedition, together with a brief introduction on the state and its people. At that time, he promised a further article comparing the Sind and Manipur avifaunas, but, busy with his commitment to the Congress, he never managed to write it.

However, that was not quite the end of *Stray Feathers*, for in 1899, Charles Chubb of the Zoology Department of the British Museum of Natural History, as an acknowledgement of the importance of Hume's Manipur findings, produced an Index to Volume XI, thus completing that volume. Moreover, as a further witness to the invaluable nature of *Stray Feathers* as a storehouse of information on Indian ornithology, Chubb, acting partly under the influence of Bowdler Sharpe, published in 1899, as the final issue of the journal, a comprehensive index to the 11 existing volumes. The indexing had taken Chubb two years of spare-time work to prepare, and he was convinced that even ornithologists would be "surprised at the amount of information collected together by Mr. Hume during the fifteen years that he presided over the fortunes of the magazine".⁽⁵⁰⁾ Chubb paid special tribute to Hume's "boundless energy" as reflected both in his own vast written contributions and also in "gathering around him a set of earnest workers, whose papers are still consulted as of the highest importance." He further noted that two of the original contributors to *Stray Feathers*, namely Eugene Oates and Dr. W. T. Blanford, had subsequently "become famous by the production of standard works on Indian Ornithology."

Although *Stray Feathers* formed the major proportion of Hume's contributions to ornithological publication from 1872 to 1883, he produced other notable works during that time. The first was his co-editing with George Henderson of LAHORE TO YARKAND: *Incidents of the Route and Natural History of the Countries Traversed by the Expedition of 1870* under T. D. Forsyth (London, 1873). Henderson, who was a Medical Officer as well as Superintendent of the Botanical Gardens at Calcutta, had been a member of the 3-person expedition, and had collected a large number of bird

species. But he was not an expert on ornithology and Hume, by then Secretary to the Department of Revenue, Agriculture and Commerce of the Indian Government and a Fellow of the Zoological Society, was called upon to write up the results of that aspect of the expedition and co-edit the overall report. His RESUMÉ OF THE ORNITHOLOGICAL RESULTS OF THE EXPEDITION, opened with the observation that the findings in that area were less important and conclusive than "might ... have been expected" ⁽⁵¹⁾. The problems were that much of the journey was through "oft-explored regions of Kashmir and Ladak," that the members were not free to explore the area around Yarkand city, and that much of the route was through inhospitable country, "higher than the summit of Mont Blanc". As a result, only 158 species were observed, of which only 59 pertained to "the ornithologically unknown hills and plains of Yarkand". Hume was able to confine his "resumé" of the findings to a dozen pages, though his detailed descriptions of the bird species extended to over 150 pages.

More important publications by Hume followed in 1874 and 1875. The first was a very practical manual for amateur collectors in India, namely the "Indian Ornithological Collectors' Vademecum: Containing Practical Instructions for Collecting, Preserving, Packing and Keeping Specimens of Birds Eggs, Nests Feathers and Skeletons". This was an elaboration of various notes Hume had prepared earlier to assist those men around the country who were collecting ornithological specimens for him. The new printed version was 78 pages in length, and published in London and Calcutta. It sold in India for only Re.1. This detailed manual obviously filled a need, so much so that in 1881 Hume published, again in both countries, a second and enlarged edition of 90 pages.

In 1875, Hume published his most substantive work till that time on Indian ornithology entitled NESTS AND EGGS: INDIAN BIRDS (ROUGH DRAFT). Published in Calcutta, the volume ran to 662 pages and contained detailed information on 1008 species, including with each entry the name of the first person to have identified it. The volume included 18 separate species which had been identified for the first time by Hume himself. This publication constituted a valuable update on the latest findings in Indian ornithology, and one which Hume at that time undoubtedly regarded as a precursor to more comprehensive work in this field which he had in view.

Hume's next substantive publication, and the one with the broadest appeal to those outside the narrow field of ornithological specialists, was THE GAME BIRDS OF INDIA, BURMAH AND CEYLON published in 3 volumes (1879-1881), and produced in collaboration with Captain C. H. T. Marshall, a dedicated amateur ornithologist long active in India. Marshall's contribution consisted primarily in supervising, while on extended leave in Britain, the production of the large number of hand-painted plates with which the volumes were illustrated. Hume reserved for himself the more onerous task of writing detailed and comprehensive notes on each of the species covered in the volumes: 46 in Volume 1, 48 in Volume 2, and 54 in the Volume 3. Even though Hume and Marshall regarded some of the coloured plates as "far from satisfactory" because colours of the soft parts were sometimes "wrongly represented" and occasionally the artists "subordinated accuracy of delineation to pictorial effect" ⁽⁵²⁾, the volumes are impressive as works of art. Hume also apologized for the quality of the text, regretting that "pressure of other work of all kinds" had precluded consulting "all that has ever been written by others regarding each species". Nor had he "time to weld all this together with personal ... experiences into a harmonious whole," or "time to re-write, revise and polish." One practical result Hume hoped would follow from the publication, namely that it would enable sportsmen to "identify every bird they may shoot," and thereby further knowledge about its "distribution, habits, food and nidification". Particularly because of the full illustration with coloured plates, this was an expensive publication and Hume estimated that it would cost him an initial outlay of

approximately £4,000⁽⁵³⁾. He, therefore, needed his official salary to finance the publication of *THE GAME BIRDS*. There is reason to suspect that had it not been for this publication, to which he attached great importance, Hume likely would have resigned from the ICS following his demotion in 1879, instead of at the end of 1881 after Volume 3 was published. In reality, even though the publication was well received, Hume reported that in 1884 he was still out by £2,700, and that even if all the 1,000 copies printed were ultimately sold, his overall loss would be around £17,200⁽⁵⁴⁾.

In the early 1880s, Hume intended to produce an even more ambitious work, an up-to-date and comprehensive study of all the known birds of India. Indeed, as early as 1872, he had formally announced his intention to publish a "Conspectus of the Avifauna of India and its Dependencies," in which he proposed to include information "on every species ... observed" in that vast territory⁽⁵⁵⁾. He estimated that that would amount to some 1,500 species, and planned to provide under each species data from his own museum on an estimated 12,000 bird specimens and 10,000 eggs. But that project fell through, perhaps because a snag may have developed over his efforts to negotiate, with the government press, arrangements for retaining printing typeface of some 1,000 pages for up to 18 months⁽⁵⁶⁾. However, Hume never abandoned the idea of producing a comprehensive and up-to-date publication on Indian ornithology. By 1882, he had assembled voluminous notes for that work at his spacious and beautiful bungalow, known as Rothney Castle, on Jakko Hill, high above the Mall on the Simla ridge, and had evidently written large portions of the manuscript⁽⁵⁷⁾. Unfortunately, in the winter of 1883, when he was absent from his home and museum in Simla, his "ornithological library" was broken into by a disgruntled former servant, who, in Hume's own words, "gradually abstracted a large number of books, and an enormous mass of ornithological mss, which he tore up and sold, from time to time in the bazaar as waste paper."⁽⁵⁸⁾ Included among this material was "the whole" of Hume's notes for his projected *BIRDS OF THE BRITISH INDIAN EMPIRE*, a "completed revised edition" of his *NESTS AND EGGS OF INDIAN BIRDS*; his *Museum Catalogue*, consisting of some 6,000 foolscap sheets; and other material that he was preparing for publication. While Hume's associate, Marshall, was later to describe this as "a truly crushing blow: the colossal work of over a quarter of a century thrown away",⁽⁵⁹⁾ at the time Hume himself seemed to take it as little more than an unfortunate turn of fate. He himself described the loss as "invaluable and irreplaceable," and confessed to Sharpe that he lacked "the heart to undertake the rewriting, for ornithology has no longer the interest for me that it once possessed."⁽⁶⁰⁾ By then theosophy had turned him from further bird collecting, and, more significantly, he was involved in the new exciting mission of helping to develop an organised Indian nationalist movement.

Hume's final piece of ornithological writing was done in 1891, when he contributed the "Introduction to the Scientific Results of the Second Yarkand Mission", an official publication on the contributions of Dr. Ferdinand Stoliczka, who served as the geologist and natural historian on the expedition, but died during the return journey. Stoliczka, as noted earlier, had accompanied Hume on the Andaman Islands Expedition of March 1873, and Hume was a close friend and admirer of that accomplished scientist. Moreover, one of Stoliczka's dying requests was that Hume be asked to edit a volume on the scientific results of the expedition. Accordingly, when Stoliczka's various natural history collections arrived in Simla, Hume used the influence of his official Secretaryship to persuade the Indian Government to fund such a publication. In 1875, Hume edited for private circulation a copy of Stoliczka's expedition diary for use by various scientific specialists who had agreed to write up the material on the results of the expedition in their own specialist areas. Between 1878 and 1891, twelve such specialised articles were published on subjects ranging from geology to

insects. Hume himself had intended to write the section on birds, but under the pressure of his other work that writing devolved on Sharpe. Hume's main post-1875 contribution was to write the "Introduction" to the 1891 official collected publication, which brought all the previous papers together in one volume. Hume paid fulsome tribute to Stoliczka's "industry, perseverance ... wide scientific knowledge ... sanctified by a pure and generous heart".⁽⁶⁰⁾ Hume regarded the collected volume as the "best memorial" he and his associates could provide to a "lost friend and comrade," who, though he lay in a "lone Tibetan grave," still numbered among "those heroes of science, whose bloodless, blameless triumphs remain forever the inheritance and the blessings of mankind." Obviously, Hume himself had lost interest only in one branch of science and not in the overall merits of the discipline.

Hume's third and most outstanding contribution to ornithology was the massive and well organized collection of Indian bird skins and eggs which he assembled at his Rothney Castle home and museum in Simla. This consisted partly of the collections of other ornithologists which he purchased, notably those of L. Mandelli on Sikkim and Tibetan birds and of W. E. Brooks on birds of the Indian plains⁽⁶²⁾. But Hume's collection was made up primarily of birds and eggs which he himself was instrumental in collecting for more than two decades after 1858. For Hume, reconstruction after the rebellion included expanded ornithological collecting during his ensuing years in Etawah, and when he left there in early 1867, he had a collection of 2,500 specimens⁽⁶³⁾. But his collecting became even more systematic and wide ranging when he took over the Commissionership of Inland Customs in mid-1867, a job which necessitated almost continuous travel on his part, and brought him into direct contact with numerous officials of his own and other branches of government. In this way and as a result of his private travels, Hume soon had developed a network, as Marshall put it, of "more than fifty" ornithological collectors "between Cape Comorin and Peshawar, and from Nepal to Gujarat, as well as in all parts of Burma"⁽⁶⁴⁾. A key person in Hume's ornithological establishment from around that time was William R. Davidson, a well qualified ornithological collector and skilled taxidermist, whom Hume personally employed as the curator of his ornithological museum for some 13 years. In addition to his own vigorous and extensive collecting, Hume frequently despatched Davidson, supported by assistant taxidermists, to collect for him. In this connection, Davidson undertook important explorations as far afield as Tenasserim and the Malay Peninsula, where he discovered "many new and interesting species"⁽⁶⁵⁾. The result was that by 1883, Hume had well over 80,000 specimens of bird skins and eggs, carefully preserved but inadequately housed, in his burgeoning museum quarters at Rothney Castle.

The combination of the theft of Hume's ornithological papers in early 1883 and his waning interest in the continued pursuit of Indian ornithology led him to think seriously about the disposal of his vast collection. There was no facility in India fit to permanently house such a massive collection under carefully controlled conditions, and Hume's thoughts naturally turned to the British Museum of Natural History in London, where there was a first rate ornithologist in the person of Dr. Sharpe, with whom Hume had already developed close professional contact. An added reason for thinking of the Museum as the ideal location was that Hume, in view of the theft of his detailed catalogue, needed somebody like Sharpe to come to India, go through the entire collection, improve the ticketing of individual species, and supervise the packing of the collection for overseas shipment.

Accordingly, in July 1883, Hume wrote to Sharpe broaching the idea of donating to the British Museum his vast collection, which he estimated to have cost him £10,000 to assemble⁽⁶⁶⁾. A few months later, he made his offer official, attaching several conditions designed to enhance the value

of the collection for science⁽⁶⁷⁾. Hume's prime condition was that "none of the types and none of the rare specimens will ever be mounted or exposed to the influence of light." This was partly because he wanted the collection to be used solely for scientific study, but was also related to the principle on which he had established his collection. Hume elaborated: "The influence of climate and specially of moisture on the plumage of some birds is greater than has perhaps been recognised, and one leading object of my labours has been to get together specimens of local species from all parts of the Empire, so as to enable us to trace clearly the changes due to those influences in the climate affected by them, and at the same time clearly to recognize those other classes which are in no wise, or in a much smaller degree so affected." Hume's second condition was that Sharpe himself come to India for some eight months to go through the collection, re-catalogue as necessary, and supervise the careful packing of the specimens for shipment to Britain. Hume also strongly desired, though he did not insist, that his collection be kept as a distinct unit. As for specimens which Sharpe decided not to retain, Hume was anxious that they be presented to Professor Agassiz of the Smithsonian Institution in Washington. Finally, in view of the extra burdens which would devolve on Sharpe in connection with this vast new Indian collection, Hume appealed to the Museum Trustees to raise Sharpe's salary and rank.

Some of Hume's conditions raised problems for the British Museum, particularly those relating to Sharpe. For one thing, the Museum concluded that he could not be spared for an extended working visit to India, nor would it bind itself to raising his salary or status. However, the Zoological Keeper, Dr. Albert Gunther, was anxious to make every "practicable effort ... to secure so valuable a collection," and had no difficulty with Hume's other terms⁽⁶⁸⁾. As a possible solution to the problems over despatching Sharpe to India, the Museum offered to pay Hume up to £2,500 for the collection in order to enable him to hire an India-based ornithologist to catalogue and prepare the collection for shipment. These proposals Hume did not consider "satisfactory," but they obviously stimulated him to think about the possibility of reviving his abandoned publication on the BIRDS OF INDIA. Instead of accepting a payment for his collection, Hume now approached the Viceroy, Lord Ripon, with a request that Eugene Oates, a rising amateur ornithologist who had just published an "admirable work" on the birds of British Burma, be assigned on special duty, at his regular government pay, to work with Hume for three to five years⁽⁶⁹⁾. Oates, who was evidently anxious to co-operate, would assist Hume in preparing his ornithological collection for the British Museum, and at the same time the two of them would co-author "a complete avifauna of the Empire," as well as the ornithological section of the Second Yarkand Mission. The Trustees of the Museum liked Hume's modified proposal but requested the Secretary of State to provide financial support to Oates for only the one-year period which they thought it would take to prepare the collection for deposit and transport⁽⁷⁰⁾. The Government of India agreed to this, but Hume refused to settle for less than the extended support for the two publications as well⁽⁷¹⁾.

In the meantime, fate intervened to lend new urgency to the issue of preserving Hume's ornithological collection. Heavy rains in the winter of 1883-84 caused the foundering of part of his museum, and damaged some of the tin boxes in which Hume stored his entire collection. The bird skins in the damaged boxes got wet and insects were beginning to invade the specimens. In desperation, because the very well being of the collection was threatened, Hume promised that once the rains ceased in the autumn of 1884, he would begin drying the wet specimens and packing up and sending the collection off to England just as it was. Unfortunately, that proved to be an unusually wet autumn in Simla, and in January 1885 Hume informed Sharpe that because of the rain and his new political work he thought that not a single case of specimens could be shipped

before April⁽⁷²⁾. With the projected Indian National Congress still in a preliminary organisational stage, he feared that the "immensity" of the political work required in India would leave him no time to work on the bird lists or even properly sift the damaged from the good specimens.

This information alarmed Sharpe, and he at once volunteered to go to India that spring and personally supervise the packing and despatch of the collection before "another rainy season commenced and further damage ensued".⁽⁷³⁾ The Museum authorities evidently viewed the situation as an emergency and now agreed to spare Sharpe, who left for India in April and reached Shimla a few weeks later. Through Hume's influence, the Public Works Department of the Indian Government lent Sharpe the service of K. C. Mukerjee, a knowledgeable amateur ornithologist, and Hume himself arranged the hiring of a Sikh foreman and 30 Sikh carpenters, to make large, strong wooden crates in which the smaller tin boxes of specimens were to be shipped.

Sharpe provided the following account, the only one we have, of Hume's impressive ornithological museum: "I arrived at Rothney Castle about 10 a.m. on the 19th of May, and was warmly welcomed by Mr. Hume, who lives in a most picturesque situation high up on Jakko ... From my bedroom window, I had a fine view of the snowy range. Although somewhat tired by my jolt in the tonga from Solun, I gladly accompanied Mr. Hume at once into the museum ... I had heard so much from my friends, who knew the collection intimately, ... that I was not so much surprised when at last I stood in the celebrated museum and gazed at the dozens upon dozens of tin cases which filled the room. Before the landslip occurred, which carried away one end of the museum, it must have been an admirably arranged building, quite three times as large as our meeting-room at the Zoological Society, and ... much more lofty. Throughout this large room went three rows of table cases with glass tops, in which were arranged a series of the birds of India sufficient for the identification of each species, while underneath these tablecases were enormous cabinets made of tin, with trays inside, containing species of the birds in the table-cases above. All the specimens were done up in brown-paper cases, each labelled outside with full particulars of the specimen within ... At each end of the room were racks reaching up to the ceiling, and containing immense cases full of birds ... On the western side of the museum was the library, reached by a descent of three steps, a cheerful room, furnished with large tables, and containing besides the egg-cabinets, a well-chosen set of working volumes. One ceases to wonder at the amount of work its owner got through when the excellent plan of his museum is considered. In a few minutes an immense series of specimens could be spread out on the tables, while all the books were at hand for immediate reference ... After explaining to me the contents of the museum, we went below into the basement, which consisted of eight great rooms, six of them full, from floor to ceiling, of cases of birds, while at the back of the house two large verandahs were piled high with cases full of large birds, such as Pelicans, Cranes, Vultures, &c. An inspection of a great cabinet containing a further series of about 5000 eggs completed our survey. Mr Hume gave me the keys of the museum, and I was free to commence my task at once"⁽⁷⁴⁾.

The task of checking, sorting and packing the specimens took nearly a full month, with Sharpe and his assistants working every day from "six in the morning till sunset".⁽⁷⁵⁾ Hume's pre-engaged carpenters had already built 26 large wooden crates, but 21 more were required. When packed with the tin boxes of specimens, Sharpe estimated the average crate weighed about half a ton. Before Sharpe's arrival, Hume had been obliged to discard some 20,000 bird specimens damaged by insects, but few of his prime series were destroyed. Sharpe discovered that in some of the damaged tin cases there were "hundreds" of moth cocoons, sufficient, in fact "to have swept away the whole collection in a few months." As finally despatched, the collection for deposit at the British Museum consisted of "63,000 birds, 500 nests, 18,500 eggs, besides 400 skins of Mammalia".⁽⁷⁶⁾ Sturdy post-office porters, crews of 16 each, carried each of the crates the one-mile to the Simla bullock-train office. From there, they were despatched by bullock cart down the narrow mountain road to Kalka, and thence to Ambala, the nearest railway station. From Ambala, the crates went by rail to Bombay and most of them accompanied Sharpe on the P & O steamer that took him back to Plymouth by early August. Within four months of Sharpe's departure from Simla, the whole of Hume's ornithological collection, more precise details on which are provided in Appendix A below, arrived safely at the British Museum. Sharpe himself was delighted that Hume's "princely" collection had been saved from the ravages of

the "moist climate of Simla," but acknowledged that it would take some years before the collection could be fully sorted and classified.

Both Sharpe and the Museum authorities paid fulsome tribute to the excellence of the collection which Hume had assembled and donated. Indeed, within a few hours of his arrival at Shimla, Sharpe had astutely concluded that "Mr. Hume was a naturalist of no ordinary calibre, and this great collection will remain a monument of the genius and energy of its founder long after he who formed it has passed away".⁽⁷⁷⁾ After he had supervised the packing of the collection, he added the following perceptive observations: "... Such a private collection as Mr. Hume's is not likely to be formed again; for it is doubtful if such a combination of genius for organisation with energy for the completion of so great a scheme, and the scientific knowledge requisite for its proper development, will again be combined in a single individual".⁽⁷⁸⁾ Some twenty years later, by which time the collection had been carefully sorted, stored and catalogued, an official Museum publication provided the following summary of the overall merits of the collection: "The Hume Collection was one of the most splendid donations ever made to the Nation, and added to the Museum, which had previously but a poor series of Indian birds, the largest and most complete collection of birds and eggs of the British Indian Empire the world has ever seen".⁽⁷⁹⁾ This assessment remains as true today, near the end of the century, as when it was written in 1906.

The successful transfer of Hume's ornithological collection to safe keeping in the British Museum marked the effective end of his involvement in Indian ornithology. It did not, however, terminate his interest in natural history. After he gave up his full time work as General Secretary of the Indian National Congress in 1894 and retired permanently to Britain, he took up a new scientific hobby. In line with his non-violent, vegetarian life style, Hume became an "enthusiastic student of British botany." According to a close associate in this field, Hume viewed the "study of botany as a relaxation from business, and a means of mental culture." His objective was to assemble a collection of British plants and herbs, which could form the "nucleus for the advancement of the study of Botany in [the] South London" area where he had taken up residence. In this process, he worked closely with the botanist F. H. Davey, the author of *FLORA OF CORNWALL* (1909). In that publication, Davey paid tribute to Hume as his "companion on many an excursion in Cornwall and Devon, and ... greatest helper in the compilation of this Flora."⁽⁸²⁾

In 1901, Hume became a Fellow of the Linnaean Society and less than a decade later created a South London Botanical Institute, with his own personal endowment of £10,000. A fellow enthusiast of British botany, W. H. Grimm, became the curator of the Institute, which by the time of Hume's death in 1912 had a collection of over 40,000 plant specimens, all "beautifully dried and mounted".⁽⁸³⁾ Much of the collection had been gathered by Hume himself, though he also purchased the collections of two other botanists. Hume also bequeathed to the Institute a useful reference library. Thanks to his generous endowment, this Institute, now known as Hume's South London Botanical Institute, continues to exist at its original location of 323, Norwood Road, and houses 100,000 British plant specimens and a specialised library of some 3,000 volumes⁽⁸⁴⁾. It would be a matter of much satisfaction to Hume, who was himself an avid gardener and a strong proponent of adult education, to know that the garden at the back of the Institute has recently been restored with a selection of rare plants and that the Local Education Authority has been holding regular evening classes in the building.

In one final area of natural history, Hume's interest and collecting habit deserve a brief mention. As noted earlier, Hume had been an active and enthusiastic big game hunter during the first part of his career in India. In that capacity, he accumulated a substantial collection of mounted horned game animals of India and Central Asia. In 1891, Hume presented 300 specimens, or about 80 percent of his total collection, to the British Museum of Natural History. A contemporary and well

informed press article on the donation noted that "almost every specimen is distinguished by its perfect development, unusual size, or some other feature of interest to the naturalist or sportsman".⁽⁸⁵⁾ It included "magnificent heads of the largest of the Asiatic wild sheep -- the *Ovis poli* -- from the Pamir plateau" of other wild sheep, wild goats, wild yak, antelope and deer. Upon his death, Hume bequeathed to the Museum the remaining 105 favoured specimens of his collection, which included game heads from the Pamirs, Tibet and Burma, as well as India proper. The *Times* noted that the specimens, having been collected at a much earlier period, contained "finer examples of many species than are now obtainable".⁽⁸⁶⁾ It further commented that thanks to Hume's two donations of Indian big game heads, the Museum now had a "collection ... which is certainly unsurpassed and probably unrivalled." Indeed, the Museum authorities were so pleased by the collection that in 1913 they published an illustrated 42-page "Catalogue of the Heads and Horns of Indian Big Game bequeathed by A. O. Hume to the British Museum of Natural History".⁽⁸⁷⁾

It is difficult for a social scientist to assess Hume's contributions in the area of natural history. He himself never claimed or pretended to be an intellectual innovator in the field. He always remained essentially an amateur, but one who had a genuine and profound interest in those areas of science to which he devoted so much of his time, talent and money. Obviously, at the peak of his involvement in the late 1870s, he was one of the world's most knowledgeable and best informed authorities on Indian ornithology. In fact, Marshall, co-author of *THE GAME BIRDS OF INDIA* and himself a leading amateur ornithologist of the Subcontinent, described Hume as "the greatest authority on the ornithology of the Indian Empire," and the clear successor to Dr. Jerdon, the pioneering Indian ornithologist of the previous generation⁽⁸⁸⁾. Marshall added that Hume's enthusiasm for Indian ornithology was "infectious," and his knowledge "marvellous," so much so that his fellow enthusiasts familiarly referred to him as the Pope of Ornithology. It is a measure of the lasting significance of Hume's contributions to Indian ornithology that Dr. Sálim Ali and S. D. Ripley, leading authorities on this subject in our own times, are as fulsome as Marshall in their praise of Hume's work. In their encyclopaedic *HANDBOOK OF THE BIRDS OF INDIA AND PAKISTAN*, they state that from 1862, when Jerdon's pioneering *BIRDS OF INDIA* was published, until the early 1890s when a government-sponsored series on birds came out, Hume completely dominated the field⁽⁸⁹⁾. They further refer to Hume's eleven volume *Stray Feathers* as a "veritable gold-mine for the ornithologist and an eloquent memorial to the zeal, industry and erudition of their editor," and add that they still constitute today "an absolutely indispensable source" for the study of Indian ornithology⁽⁹⁰⁾.

Considering Hume's high level positions in the Indian Civil Service for practically the entire time that he was most active in ornithology, it is truly astounding how much he was able to contribute in terms of major ornithological expeditions to outlying areas of the Subcontinent, of organising a host of amateur collectors to provide him with specimens, as well as the scientific classification and meticulous storage of his vast collection in his Simla museum, and finally his very extensive original scientific writing on the subject. Indeed, it is fair to assume that many full time professional scientists would be proud to achieve in a life career what Hume did as a cherished spare time activity. It is also clear, judging from his relations with Drs Sharpe, Finsch, and Verreaux, and other professional ornithologists of his time, that Hume's work was respected well beyond his own circle of amateur scientists. His most lasting contribution to science is the massive collection of some 82,000 Indian bird and egg specimens which he was instrumental in preserving for posterity. Indeed, it would be a highly significant study, were the resources available, for contemporary specialists in Indian ornithology to use Hume's well documented collection as a benchmark by which to study the fate of the various species at the present time, nearly a century and a half later than when he began to

assemble his unsurpassed collection. Such a study would have significance not merely for ornithology but perhaps more importantly for South Asian ecology.

Appendix A

Hume's 1885 Indian Ornithological Bequest to the British Museum of Natural History⁽⁹¹⁾

The collection [which was added to the 10 bird specimens from the Nicobar Islands and other parts of India presented by Hume in 1874] consisted of about 82,000 specimens, of which 75,577 were placed in the Museum cabinets, as follows: [The bird names have not been altered in this list — Eds].

- 2830 Birds of Prey (*Accipitriformes*).... 8 types
- 1155 Owls (*Strigiformes*).... 9 types
- 2819 Crows, Jays, Orioles, etc.... 5 types
- 4493 Cuckoo-shrikes and Flycatchers.... 21 types
- 4670 Thrushes and Warblers.... 28 types
- 3100 Bulbuls and Wrens, Dippers, etc.... 16 types
- 7304 Timaliine birds.... 30 types
- 2119 Tits and Shrikes.... 9 types
- 1789 Sun-birds (*Nectarinidae*) and White-eyes (*Zosteropidae*).... 8 types
- 3724 Swallows (*Hirundinidae*), Wagtails and Pipits (*Motacillidae*).... 8 types
- 2375 Finches (*Fringillidae*).... 8 types
- 3766 Starlings (*Sturnidae*), Weaver-birds (*Ploceidae*), and Larks (*Alaudidae*).... 22 types
- 807 Ant-Thrushes (*Pittidae*), Broadbills (*Eurylaemidae*).... 4 types
- 1110 Hoopoes (*Upupae*), Swifts (*C. ypseli*), Nightjars (*Caprimulgidae*), and Frogmouths (*Podargidae*).... 8 types
- 2277 Picidae, Hornbills (*Bucerotes*), Bee-eaters (*Meropes*), Kingfishers (*Halcyones*), Rollers (*Coracidae*), Trogons (*Trogones*).... 11 types
- 2339 Woodpeckers (*Pici*).... 3 types
- 2417 Honey-Guides (*Indicatores*), Barbets (*Capiformes*), and Cuckoos (*Coccyges*) 8 types
- 813 Parrots (*Psittaciformes*).... 3 types
- 1615 Pigeons (*Columbiformes*).... 5 types
- 2120 Sand-Grouse (*Pterocletes*), Game-birds and Megapodes (*Galliformes*).... 8 types
- 882 Rails (*Ralliformes*), Cranes (*Gruiformes*), Bustards (*Otides*).... 6 types
- 2415 Waders (*Charadriiformes*).... 4 types
- 882 Gulls and Terns (*Lariformes*) and Petrels (*Procellariiformes*).... 6 types
- 1089 Ibises (*Ibididae*), Herons (*Ardeidae*), Pelicans and Cormorants (*Steganopodes*), Grebes (*Podicipediformes*).... 7 types
- 761 Geese and Ducks (*Anseriformes*).... 2 types
- 15,965 Eggs

The Hume Collection contained 258 types.

Appendix B

Indian Birds First Identified or Described by Hume⁽⁹²⁾

This data is based on information from Sálím Ali and S. D. Ripley's publication as identified in the Reference Notes below. The Synopsis numbers are included for easy reference to their invaluable HANDBOOK [The bird names have not been altered in this list — Eds].

- 12 Persian-Shearwater (*Procellaria Iherminieri persica*) [= *Puffinus persicus*]
- 17 Short-tailed Tropic-bird (*Phaethon aethereus indicus*).

- 33 Great Whitebellied Heron (*Ardea insignis*).
 96 Grey, Andaman or Oceanic Teal (*Anas gibberifrons albugularis*).
 140 Burmese Shikra (*Accipiter badius poliopsis*).
 148 Indian Sparrow-Hawk (*Accipiter nisus melaschistos*).
 180, 183 Indian Griffon Vulture (*Gyps fulvus fulvescens*).
 181 Himalayan Griffon Vulture (*Gyps himalayensis*).
 200 Andaman Pale Serpent Eagle (*Spilornis cheela davisoni*).
 201 Nicobar Crested Serpent Eagle (*Spilornis cheela minimus*) [= *Spilornis minimus*].
 235 Northern Chukor (*Alectoris chukar pallescens*).
 239 Assam Black Partridge (*Francolinus francolinus melanonotus*).
 263 Northern Painted Bush Quail (*Perdica erythrorhyncha blewitti*).
 265 Manipur Bush Quail (*Perdica manipurensis manipurensis*).
 273 Redbreasted Hill Partridge (*Arborophila mandellii*).
 308 Mrs. Hume's Barredback Pheasant (*Symaticus humiae humiae*).
 330 Andaman Bluebreasted Banded Rail (*Rallus striatus obscurior*) [= *Gallirallus striatus*].
 466 Roseate Tern (*Sterna dougallii korustes*).
 476 Blackshafted Ternlet (*Sterna saundersi*) [*Sterna albifrons*].
 516 Blue Rock Pigeon (*Columba livia neglecta*).
 525 Andaman Wood Pigeon (*Columba palumboides*).
 555 Andaman Redcheeked Parakeet (*Psittacula longicauda tyleri*).
 563 Eastern Slatyheaded Parakeet (*Psittacula finschii*).
 601 Bangladesh Crow-Pheasant (*Centropus sinensis intermedius*).
 607 Andaman Barn Owl (*Tyto alba deroepstorffi*).
 610 Ceylon Bay Owl (*Phodilus badius assimilis*).
 611 Western Spotted Scops Owl (*Otus spilocephalus huttoni*).
 613 Andaman Scops Owl (*Otus balli*).
 614 Pallid Scops Owl (*Otus brucei*).
 618b Nicobar Scops Owl (*Otus scops nicobaricus*) [= *Otus alius*].
 619 Punjab Collared Scops Owl (*Otus bakkamoena plumipes*).
 626a Himalayan Horned or Eagle-Owl (*Bubo bubo hemachalana*).
 643 Burmese Brown Hawk-Owl (*Ninox scutulata burmanica*).
 645 Hume's Brown Hawk-Owl (*Ninox scutulata obscura*).
 653 Forest Spotted Owlet (*Athene blewitti*) [*Heteroglaux blewitti*].
 654 Hume's Wood Owl (*Strix butleri*).
 669 Bourdillon's or Kerala Great Eared Nightjar (*Eurostopodus macrotis bourdilloni*).
 673 Hume's European Nightjar (*Caprimulgus europaeus unwini*).
 679 Andaman Longtailed Nightjar (*Caprimulgus macrurus andamanicus*).
 684 Hume's Swiftlet (*Collocalia brevirostris innominata*).
 684a Black-nest Swiftlet (*Collocalia maxima maxima*).
 686 Andaman Greyrumped or 'White-nest' Swiftlet (*Collocalia fuciphaga inexpectata*).
 691 Brown-throated Spinetail Swift (*Chaetura gigantea indica*).
 732 Nicobar Storkbilled Kingfisher (*Pelargopsis capensis intermedia*).
 738 Andaman Whitebreasted Kingfisher (*Halcyon smyrnensis saturator*).
 773 Narcondam Hornbill (*Rhyticeros undulatus narcondami*) [= *Aceros narcondami*].
 793 Pakistan Orangerumped Honeyguide (*Indicator xanthonotus radcliffi*).
 841 Manipur Crimsonbreasted Pied Woodpecker (*Picoides cathpharius pyrrhorthorax*) [= *Dendrocopos cathpharius*].
 887 Karakoram or Hume's Short-toed Lark (*Calandrella acutirostris acutirostris*).
 889 Indus Sand Lark (*Calandrella raytal adamsi*).

- 898 Baluchistan Crested Lark (*Galerida cristata magna*).
 915 Pale Crag Martin (*Hirundo obsoleta pallida*).
 974 Large Andaman Drongo (*Dicrurus andamanensis dicruriformis*).
 986 Andaman Glossy Stare (*Aplonis panayensis tytleri*).
 998 Hume's or Afghan Starling (*Sturnus vulgaris nobilior*).
 1000 Sind Starling (*Sturnus vulgaris minor*).
 1041 Hume's Ground Chough (*Podoces humilis*).
 1113 Andaman Blackheaded Bulbul (*Pycnonotus atriceps fuscoflavescens*).
 1165 Mishmi Brown Babbler (*Pellorneum albiventris ignotum*).
 1172 Mount Abu Scimitar Babbler (*Pomatorhinus schisticeps obscurus*).
 1190 Manipur Longbilled Scimitar Babbler (*Pomatorhinus ochraceiceps austeni*).
 1225 Kerala Blackheaded Babbler (*Rhopocichla atriceps bourdilloni*).
 1234 Hume's Babbler (*Chrysomma altirostre griseogularis*).
 1289 Western Variegated Laughing Thrush (*Garrulax variegatus similis*).
 1301 Khasi Hills Greysided Laughing Thrush (*Garrulax caeruleus subcaeruleus*).
 1330 Manipur Redheaded Laughing Thrush (*Garrulax erythrocephalus erythrolaema*).
 1363 Sikkim Whitebrowed Yuhina (*Yuhina castaniceps rufigenis*).
 1389 Bombay Quaker Babbler (*Alcippe poioicephala brucei*).
 1424 Eastern Slaty Blue Flycatcher (*Muscicapa leucomelanura minuta*).
 1434 Whitetailed Blue Flycatcher (*Muscicapa concreta cyanea*).
 1453 Eastern Whitebrowed Fantail Flycatcher (*Rhipidura aureola burmanica*).
 1484 Hume's Bush Warbler (*Cettia acanthizoides brunnescens*).
 1510 Northwestern Plain Wren-Warbler (*Prinia subflava terricolor*).
 1520 Northwestern Jungle Wren-Warbler (*Prinia sylvatica insignia*).
 1526 Sind Brown Hill Warbler (*Prinia criniger striatula*).
 1540 Blacknecked Tailor Bird (*Orthotomus atrogularis nitidus*).
 1569 Small Whitethroat (*Sylvia curruca minula*).
 1570 Hume's Lesser Whitethroat (*Sylvia curruca althaea*).
 1577 Plain Leaf Warbler (*Phylloscopus neglectus*).
 1664 Andaman Magpie-Robin (*Copsychus saularis andamanensis*).
 1707 Redtailed Chat (*Oenanthe xanthopyrma kingi*).
 1714 Hume's Chat (*Oenanthe alboniger*).
 1730 Burmese Whistling Thrush (*Myiophonus caeruleus eugenei*).
 1820 Manipur Redheaded Tit (*Aegithalos concinnus manipurensis*).
 1850 Manipur Tree Creeper (*Certhia discolor manipurensis*).
 1903 Andaman Flowerpecker (*Dicaeum concolor virescens*).
 1913 Andaman Olivebacked Sunbird (*Nectarinia jugularis andamanica*).
 1918 Assam Purple Sunbird (*Nectarinia asiatica intermedia*).
 1129a Nicobar Yellowbacked Sunbird (*Aethopyga siparaja nicobarica*).
 1955 Blanford's Snow Finch (*Montifringilla blanfordi blanfordi*).
 1960 Finn's Baya (*Ploceus megarhynchus megarhynchus*).
 1970 Nicobar Whitebacked Munia (*Lonchura striata semistriata*).
 1971-2 Jerdon's Rufousbellied Munia (*Lonchura kelaarti jerdoni*).
 1993 Tibetan Siskin (*Carduelis tibetana*).
 1995 Stoliczka's Twite (*Acanthis flavirostris montanella*).

Appendix C

Reference Sources on Hume and Indian Ornithology and Bibliography of his Principal Writings on the Subject.

Most of Hume's voluminous writing on Indian Ornithology is contained in *Stray Feathers*, Volumes 1 - 11 (1873-1899). A detailed list of all his publications therein, as well as those of all other contributors, was published in the final Volume 12 (1899). One set of this journal is available in the Indian National Library, and also in the Indian Museum Library, Calcutta. The British Museum of Natural History in London has two complete sets of *Stray Feathers*. These three institutions have many of Hume's other publications on Indian ornithology, as does the British Library, London. The Asiatic Society of Bengal Library, Calcutta, has copies of its Journals and Proceedings in which various ornithological articles or letters by Hume were published. The most comprehensive collection of Hume's published material on Indian ornithology is undoubtedly that of the British Museum of Natural History. In addition, it has the correspondence pertaining to his ornithological bequest to the Museum, some of his ornithological notebooks, and detailed catalogues of his ornithological collection and his Indian big game heads and horns. Information on many of Hume's most significant publications on Indian ornithology is provided in the Reference Notes below.

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19. *Ibid.*, 427.
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24. *Stray Feathers* IX (1880-81), 462-64.
25. The birds of Manipur, Assam, Sylhet and Cachar, *Stray Feathers* XI (Dec. 1888) 7 v.
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29. Hume, Stray Notes on Ornithology in India: No. II, Birds nesting in Bareilly in the early Rains, *The Ibis* V (1869), 1-6.
30. Hume, *My Scrap Book* (Calcutta, 1869), [v]. Blyth, who had been trained as a druggist, was Curator of the Museum of the Asiatic Society of Bengal from 1841 to 1862 and his extensive writings on zoology laid the basis for the beginnings of that science in India. Jerdon was a member of the Madras Medical Service from 1835 to 1864, but zoology was his main interest. His two volume *Birds of India* (Calcutta, 1862-64), was the first definitive work on Indian ornithology.
31. *Ibid.*, ix.
32. *Ibid.*, vi.
33. *The Ibis* (1870) VI, 181-85.
34. *Ibid.*, 399-407
35. *Journal Asiatic Society of Bengal* XXXIX, 2 (1870), 113-22, and *Proceedings. ibid.*, (1870), 269-67.
36. *The Ibis* I (1871), 23-38.
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39. *Proceedings* (1872), 70-71.
40. *Stray Feathers* I (1873), [i].
41. *Stray Feathers* II, 1 -3 (Jan. 1874), 1.
42. *Ibid.*, 1-2.
43. *Ibid.*, 27.
44. *Ibid.*, II, 6 (Oct. 1874), 534.
45. *Ibid.*, 501-02.
46. *Ibid.*, IV (1876), 220-23.
47. *Ibid.*, V (1877), 281.
48. *Ibid.*, VIII (1880), 397.
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